

IN THE CLAIMS:

22. (Once Amended) A device for shaping objects by removal of material from the surface thereof comprising:
a pulsed laser beam;
a deflecting device through which the laser beam is guided over the surface of the object;
and
an optical device provided for changing the distribution of the radiation intensity inside the laser beam cross section having at least one optical element with a microoptically active structure, wherein the microoptically active structure influences the intensity distribution in the laser beam cross section in such a way that the laser beam, after passing through said optical element, has a bell-shaped or Gaussian intensity distribution, or an intensity distribution similar to a bell-shaped or Gaussian distribution, in at least one cross-sectional direction.

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23. (Once Amended) The device according to claim 22, wherein said at least one optical element can be selectively introduced into or removed from the laser beam path for the purpose of changing the intensity distribution, wherein the at least one optical element is provided with a diffractive or refractive microoptically active structure which is suitable for influencing the intensity distribution in the laser radiation cross section.

32. (Once Amended) The device according to claim 31, wherein the variable system or the exchange wheel are provided with electronically controllable actuating drives whose control inputs, along with a control input of the deflecting device, are connected with outputs of a control unit, wherein preset data for the size of the spot area or for the rotating movement of the exchange wheel or for the deflecting angle are applied to the outputs of the control unit.

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33. (Once Amended) The device according to claim 32, wherein a device is provided for detecting actual values of curvature of individual surface portions or of the entire surface to be treated, this device being coupled with an actual-value storage.

34. (Once Amended) The device according to claim 32, wherein the control unit is connected on the input side with the actual-value storage and a reference value storage, and a computation circuit is provided in the control unit for determining preset data for the size of the spot area or for the rotating movement of the exchange wheel or for the deflecting angle of the laser beam from comparison of the actual values with the reference values.

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35. (Once Amended) A process for shaping objects through material removal from the surface of the object comprising the steps of:

guiding a pulsed laser beam which is guided over the object surface; and providing that the distribution of the radiation intensity within the laser beam or the size of the spot area with which the laser beam strikes the object surface or the deflecting angle for the laser beam are changed during the shaping by a microoptically active structure.
